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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,806	10/06/2003	Wen-Feng Liu	P26,257-C USA	3311
23307 7590 02/28/2007 SYNNESTVEDT & LECHNER, LLP 2600 ARAMARK TOWER 1101 MARKET STREET PHILADELPHIA, PA 191072950			EXAMINER ASINOVSKY, OLGA	
			ART UNIT	PAPER NUMBER
			1711	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/28/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/679,806

Applicant(s)

LIU ET AL.

Examiner

Olga Asinovsky

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-12,14,15,23 and 26-51 is/are pending in the application.
- 4a) Of the above claim(s) 16-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-12,14,15,23 and 26-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4-5, 8-12, 14-15, 23-26, 29-41, 44-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 875 546 to Parish et al in view of Yonetani et al U.S. Patent 6,015,845.

3. Applicants amend claims 1 and 23 by including limitation of a polymerizable vinyl ester compound in the narrow range of from about 10 to about 25 wt %.

4. These references have been considered in the previous office action mailed on 07/13/2006. All discussions are equivalently set here.

EP 0 875 546 (hereinafter Parish) discloses a polymerizable unsaturated high molecular weight polymeric resin including vinyl esters and vinyl polyesters for a sprayable coating composition that cures at room temperature due to the presence of curing components. The present claims disclose curable adhesive composition that can be in the form of an adhesive layer having a pull out performance. The curable coating=layer composition in Parish invention is readable for being curable adhesive layer in the present claims, since a curable coating before curing has an adhesive property.

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Referring to Yonetani, reference discloses epoxy acrylate resin as a binder that can be selected as less as 30 wt%, since the reactive monomer can be present in the amount up to 70 % by weight, column 3, lines 23-24. The epoxy acrylate resin is an adhesive component, column 1, lines 30-31 and column 2, lines 15-17. The epoxy acrylate resin is readable in the present claims. The content of a polymerizable vinyl ester compound in the specified range up to 25 wt% in the present claims is close to the range of 30 wt% in Yonetani invention.

Both references disclose polymerizable=curable vinyl ester compound.

Since said epoxy acrylate resin has an adhesive property by teaching in Yonetani invention, it would have been obvious to one of ordinary skill in the art to select the amount of curable=polymerizable vinyl ester in EP'546 and Yonetani invention in the claimed limitation of from 10 to 25 wt% and to consider that the analogous chemical formulation of the composition in EP'546 and Yonetani invention will have the analogous adhesive performance, since the adhesive performance is depending on the amount of adhesive binder, and, thereby obtain the claimed requirement.

It would have been obvious to one of ordinary skill in the art to substitute a curable vinyl ester resin or curable vinyl polyester in Parish invention with an epoxy acrylate resin in Yonetani invention for the purposes of being the claimed curable vinyl ester resin specified by the claimed formula in the present claims 8, 29 and 44. There is no showing of unexpected results derived from said substitute.

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5. Claims 6, 7, 27, 28, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 875 546 to Parish et al in view of Yonetani et al U.S. Patent 6,015,845 as applied to claims 1, 4-5, 8-12, 14-15, 23-26, 29-41 and 44-51 above, and further in view of Nakamura et al U.S. Patent 6,489,396.

The present claims 6, 7, 27, 28, 42 and 43 require a tetra-functional reactive acrylate. Nakamura discloses multifunctional polymerizable unsaturated monomers including pentaerythritol tetraacrylate, column 9, lines 8-9.

It would have been obvious to one of ordinary skill in the art to use a polymerizable tertafunctional acrylate as disclosed in Nakamura invention for being a multifunctional acrylate in EP 0 875 546 to Parish and Yonetani invention since any multifunctional acrylate works within the same expectation for obtaining adequate property. There is no showing of unexpected results derived from said use.

### ***Response to Arguments***

6. Applicant's arguments filed 1/17/2007 have been fully considered but they are not persuasive. The main argument is that the claimed adhesive composition (upon the amendment) comprises from about 10 wt% to about 25 wt% of a polymerizable vinyl ester compound; and the resulting composition has a pull out performance after one hour at a temperature of 23 C of at least about 70 KN.

7. Although Parish does not use term "adhesive," the adhesive characteristic is expected to the same curable vinyl ester and/or vinyl polyester resin in Parish invention.

8. Yonetani discloses epoxy acrylate resin as a binder that exhibits stable adhesive strength in various circumstances, column 2, lines 15-17. The amount of said binder can be present as less as 30 wt%. Since the adhesive properties are depending on the amount of the binder and on the desired application/article of using said adhesive, it is obvious to adjust the amount of binder to the selected type of article.

Vinyl toluene is aromatic reactive diluent in Parish invention for the present claim 37.

9. The argument In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, any additional reactive multifunctional acrylate would be expected to facilitate curing and crosslinking performance.

Applicants argument is that none of the cited references discloses "The superior pull-out performance" is not persuasive. The adhesive performance is based on the curable specified binder resin. Each of the cited references discloses a curable vinyl ester resin.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.A

February 26 2007

  
James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700